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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,520	01/05/2001	Heiko H. Ludwig	CH9-1999-0042	5060

7590 12/24/2003

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EXAMINER

BACKER, FIRMIN

ART UNIT	PAPER NUMBER
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3621

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/755,520

Applicant(s)

LUDWIG ET AL.

Examiner

Firmin Backer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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Response to Amendment

This is in response to an amendment file on October 30th, 2003 for letter for patent filed on January 5th, 2001 in which claims 1-36 were presented for examination. In the amendment, claims 1, 6, 11, 16, 27 and 32 have been amended, no claim has been canceled, and no claim has been added. Claims 1-36 remain pending in the letter.

Response to Arguments

1. Applicant's arguments with respect to claims 1-36 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rowney et al (U.S. Patent No. 5,996,076) in view of Sudia (US Patent No. 5,659,616)
4. As per claims 1, 6, 11, 16, 27 and 32, Rowney et al teach a computerized method having a process flow operating over a computer network comprising a plurality of interconnected

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computers and a plurality of resources, each computer including a processor, memory and input/output devices, each resource operatively coupled to at least one of the computers and executing at least one of the activities in the process flow, the method comprising extracting verifiable role certificates from said electronic authorization; and verifying whether role certificates, associated with the authorization, are themselves authentic (*see fig 1C, 4, 12A, 12B, 15B, 16, 26, 30, 35, column 15 lines 10-16 line 33, 17 lines 8-18 line 34*). Rowney et al fail to teach an inventive concept of an electronic representation of the transaction and at least one verifiable role certificate for each role for which approval is required to be completed to obtain authorization of the transaction. However, Sudia teach an inventive concept of an electronic representation of the transaction and at least one verifiable role certificate for each role for which approval is required to be completed to obtain authorization of the transaction (*see abstract, column 7 lines 12-35*). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the inventive concept of Rowney et al to include Sudia's electronic representation of the transaction and at least one verifiable role certificate for each role for which approval is required to be completed to obtain authorization of the transaction because this would have been desirable to use digital signature and certificate mechanisms to encode industry-wide security policy and authorization information into the signatures and certificates in order to permit the verifier of a signature to decide whether to accept the signature or certificate as valid, thus accommodating and easing electronic commerce business transactions.

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5. As per claims 2, 7, 12, 17, 28 and 33, Rowney et al teach a computerized method wherein roles associated with the role certificates are hashed and compared with hashed roles in a database of hashed roles (*see fig 1C, 4, 12A, 12B, 15B, 16, 26, 30, 35, column 15 lines 10-16 line 33, 17 lines 8-18 line 34*).

6. As per claims 3, 8, 13, 18, 29 and 34, Rowney et al teach a computerized method wherein the authorization is further insured by verifying that role certificates associated with the authorization correspond with roles in a permission set of roles of an authorization structure, the role certificates of which being required to authorize the transaction (*see fig 1C, 4, 12A, 12B, 15B, 16, 26, 30, 35, column 15 lines 10-16 line 33, 17 lines 8-18 line 34*).

7. As per claims 4, 9, 14, 19, 30 and 35, Rowney et al teach a computerized method wherein the authorization structure is an authorization tree (*see fig 1C, 4, 12A, 12B, 15B, 16, 26, 30, 35, column 15 lines 10-16 line 33, 17 lines 8-18 line 34*).

8. As per claims 5, 10, 15, 20, 31 and 36, Rowney et al teach a computerized method wherein the roles are extracted from the role certificates associated with the transaction, each extracted role being hashed and these hashed roles being concatenated and hashed again, and then concatenated with hashes of other permission sets, if any, according to the authorization structure and hashed once again, resulting in a computed hash value which may be compared to that which was signed by the Transaction Administrator, a match indicating that the transaction

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is authorized (*see fig 1C, 4, 12A, 12B, 15B, 16, 26, 30, 35, column 15 lines 10-16 line 33, 17 lines 8-18 line 34*).

9. As per claims 21 and 24, Rowney et al teach a Transaction Authorization Method encoded on a computer readable medium, the method having the following steps receiving a request for a transaction, obtaining an electronic representation of a document having details of the transaction from a Digital Document Database returning the transaction details to the requester awaiting and receiving from the requester the completed representation, signed by the requester requesting the Authorization Structure for the transaction from the Authorization Structure Database, the Authorization Structure being pre-signed with a signature by the Transaction Administrator and verifying the signature, and choosing a permission set of role names and user members of the permission set to contact to sign in these role names forwarding details of the transaction request with the signature of the requester to others having roles corresponding to the chosen permission set and collecting signatures of each role indicated in the permission set, requesting role certificates from the Role Certificate Database and signatures for each member of the permission set and encoding the same on the document; and forwarding the completed electronic document including the signatures and role certificates to the requester, the document including authorization details required in order to confirm the validity of the transaction (*see fig 1C, 4, 12A, 12B, 15B, 16, 26, 30, 35, column 15 lines 10-16 line 33, 17 lines 8-18 line 34*). Rowney et al fail to teach an inventive concept of obtaining the role certificate signed with a signature by a Transaction Administrator from a Role Certificate Database and verifying the signature. However, Sudia teach an inventive concept of obtaining the role

certificate signed with a signature by a Transaction Administrator from a Role Certificate Database and verifying the signature, (*see abstract, column 7 lines 12-35*). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the inventive concept of Rowney et al to include Sudia's electronic representation of obtaining the role certificate signed with a signature by a Transaction Administrator from a Role Certificate Database and verifying the signature, because this would have been desirable to use digital signature and certificate mechanisms to encode industry-wide security policy and authorization information into the signatures and certificates in order to permit the verifier of a signature to decide whether to accept the signature or certificate as valid, thus accommodating and easing electronic commerce business transactions.

10. As per claims 22 and 25, Rowney et al teach a Transaction Authorization Method wherein the role certificates and the Authorization Structure consist of hashed information about permission sets and roles, such hashed information substituting for the unhashed role certificates and permission sets (*see fig 1C, 4, 12A, 12B, 15B, 16, 26, 30, 35, column 15 lines 10-16 line 33, 17 lines 8-18 line 34*).

11. As per claims 23 and 26, Rowney et al teach a Transaction Verification Method encoded on a computer readable medium, the method having the following, using a verification key of the Role Authority to check each certificate on the document, in the following manner, checking the signatures on the transaction details using the verification keys in the supplied role certificates extracting the named roles from the role certificates hashing the roles using a hash-of-hashes

process, checking the computed hash value of the transaction against that was originally signed by the Transaction Authority to ensure that it is equal to the value for the transaction received in the Authorization Structure, using the output of the hash-of-hashes process as input to check the signature on the hash-of-hashes process; if the produced hash-of-hashes string matches the hashed string signed by the Transaction Authority, then assuming that the request is authorized; and reporting the result (*see fig 1C, 4, 12A, 12B, 15B, 16, 26, 30, 35, column 15 lines 10-16 line 33, 17 lines 8-18 line 34*). Rowney et al fail to teach an inventive concept of receiving an electronic document representing a transaction, associated transaction details being signed by a Transaction Authority, a collection of role certificates certifying named roles signed by a Role Authority, the transaction details signed by each of the signing keys corresponding to the verification keys in the role certificates, and the Authorization Structure. However, Sudia teach an inventive concept of receiving an electronic document representing a transaction, associated transaction details being signed by a Transaction Authority, a collection of role certificates certifying named roles signed by a Role Authority, the transaction details signed by each of the signing keys corresponding to the verification keys in the role certificates, and the Authorization Structure, (*see abstract, column 7 lines 12-35*). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the inventive concept of Rowney et al to include Sudia's receiving an electronic document representing a transaction, associated transaction details being signed by a Transaction Authority, a collection of role certificates certifying named roles signed by a Role Authority, the transaction details signed by each of the signing keys corresponding to the verification keys in the role certificates, and the Authorization Structure, because this would have been desirable to use digital signature and

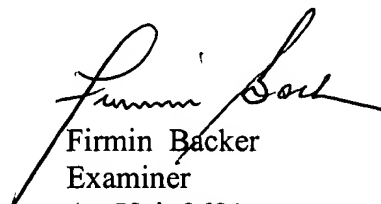
certificate mechanisms to encode industry-wide security policy and authorization information into the signatures and certificates in order to permit the verifier of a signature to decide whether to accept the signature or certificate as valid, thus accommodating and easing electronic commerce business transactions.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Firmin Backer whose telephone number is (703) 305-0624. The examiner can normally be reached on Mon-Thu 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell can be reached on (703) 305-9768. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


Firmin Backer
Examiner
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December 22, 2003